

**A SYSTEM AND METHOD FOR EXTRACTING REFLECTION AND
TRANSPARENCY LAYERS FROM MULTIPLE IMAGES**

ABSTRACT OF THE INVENTION

The present invention is embodied in a system and method for extracting structure from multiple images of a scene by representing the scene as a group of image layers, including reflection and transparency layers. In general, the present invention performs layer extraction from multiple images containing reflections and transparencies. The present invention includes an optimal approach for recovering layer images and their associated motions from an arbitrary number of composite images. The present invention includes image formation equations, the constrained least squares technique used to recover the component images, a novel method to estimate upper and lower bounds on the solution using min- and max-composites, and a motion refinement method.